GrummanWorld™

Early photo of Grumman shows him in his home-town of Huntington after he received his Navy pilot's wings.

Leroy R. Grumman 1895-1982

World War I Ensign Leroy R. Grumman is flying a Navy seaplane just off Florida's East Coast when his engine sputters, coughs, then dies. Forced to splash down on Biscayne Bay, he awaits a rescue boat. Nothing happens. The young aviator climbs out of his cockpit and lowers himself into three feet of water. Then he ties a rope to the pontoons and, because the plane is no heavier than a motorized kite, drags it about three miles back to the Miami Naval Air Station.

In ensuing years, Grumman will symbolically duplicate that experience. His payload, however, will be the entire U.S. Navy. He will be in the forefront of a small, but intrepid band of aviation pioneers wading through miles of bureaucratic tradition to pull the Navy into the air age. His numerous engineering innovations will produce the first retractable landing gear on a production military aircraft and a unique way of folding the wings of carrier-based planes to permit a 50 percent increase in the number of aircraft a carrier can accommodate. For designing and producing, on-time and often ahead of schedule, large numbers of tough, and rugged Navy planes during World War II, Grumman will receive the highest civilian award, the President's Medal for Merit—the first ever to an aircraft manufacturer.

But, the Leroy Randle Grumman story begins long before these events, in fact more than 87 years ago in Huntington, N.Y. The eldest child of postal worker George T. Grumman and his wife, Grace, young Leroy worked odd jobs while attending Huntington High School. His only sister, Mrs. Elinor Sloter, 82, remembers him as a very reserved, very studious youngster whose main diversions were mandolin-playing and athletics. Entering his senior year, Leroy found that the school offered no course in trigonometry—a subject he needed in order to pursue the college engineering degree he coveted. So he persuaded his principal to tutor him. Graduating number two in the class of 1911, he foreshadowed his future when he discussed the infant aircraft industry in his salutatorian address.

But the newly-minted high school graduate was only 16, too young to be admitted by Cornell University, even though he had won a scholarship after bicycling about 45 miles to Riverhead, L.I., to take the exam. For a year, Leroy worked odd jobs, saving as much money as he could to defray his future college expenses, but finally borrowing additional funds from a local bank.

Working his way through Cornell, starring as a second baseman on the varsity baseball team, Leroy graduated in 1916 as a mechanical engineer. On campus, he had met fellow student, Rose Marion Werther, his wife to be. "My girl friend kind of pointed him out to me," she recalls today. "I arranged to have a little trouble getting my ice skates on and he came over and helped me. That's how we got to know each other."

At the beginning of World War I, Grumman quit his first full-time job as a New York Telephone Co. engineer to enlist in the Navy. By September 1918, he had become an ensign and naval aviator. His test piloting for the Navy led to a nine-year association with the Loening brothers, Albert and Grover, pioneer builders of Navy fighter planes. By 1929, "Red Mike," so nicknamed because of his reddish hair, and five associates scraped together $64,325, rented an abandoned Baldwin, L.I., garage, and opened the Grumman Aircraft Engineering Corp. Throughout its formative years, Grumman served as president. "He was not assertive," recalls Dr. Ralph H. Tripp, a retired Grumman Aerospace Corp., executive vice president. "He did things by 'please' and 'thank you.' He never told anybody not to do something. He just didn't do it himself. He'd say: 'Wouldn't you think it would be a good idea to try this?'"

Conversely, Grumman's alter ego, Leon A. (Jake) Swirbul, mustered the company's workers like an amiable drill sergeant. "We're cold-blooded about all this," he once said. "I simply go out in the plant and tell the boys: 'You work a little harder and the company will make money. If it does, then we'll give you more money.'"

John B. Rettaliata, a retired Grumman Corp. vice president, recalls: "If you were doing a job for Mr. Grumman, he was very precise in how he wanted it done. But, he didn't second-guess or call you in after the fact. That was your job and you did it the way you thought best. He was an extremely good executive, especially considering that he didn't have an executive background."

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-on Huntington High School softball team

-in the cockpit of a Vought airplane

-Ensign Grumman
1917

-at Loening flight-testing site

-getting ready to fly F3F demonstrator

-with test pilot Lee Gehlbach before flight of F3F

-XJF-1 Duck amphibian

Grumman usually left his office door open to employees wanting to air their concerns. "You got the impression that he was as concerned as you were," Tripp recalls. "You got butterflies, because you were talking to the top guy. But, you'd get the impression that he had butterflies too."

Despite Grumman's shyness, a tenacious, combative streak in him sometimes exploded into shouting, cursing verbal duels with Swirbul. "You could tell that he was annoyed when you argued a point too long with him," says Rettaliata. "His pipe smoke came out in short bursts. If you had any sense, you got the hell out."

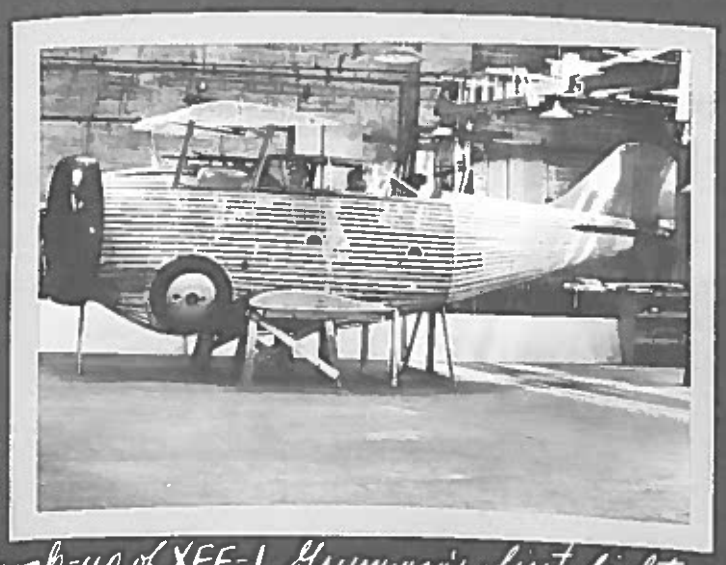
In lighter moments, Grumman — skilled boatsman, able bowler, agile softballer on his company teams — teased low 70's golfer Swirbul for wasting his time hitting a little white ball then chasing it. But in his fifties, Grumman became more of a golfing addict than Swirbul had ever been. For scoring a hole in one, his name is inscribed in the reception room of the North Hempstead Country Club in Port Washington, L.I.

Grumman's golfing cronies included a group of Wall Street tycoons who insisted on advising him on his personal financial investments. Aghast that just about his entire personal fortune was tied up in his company, they counseled: "That shouldn't be. Your portfolio should be diversified — some of it in blue chip stocks, some in bonds."

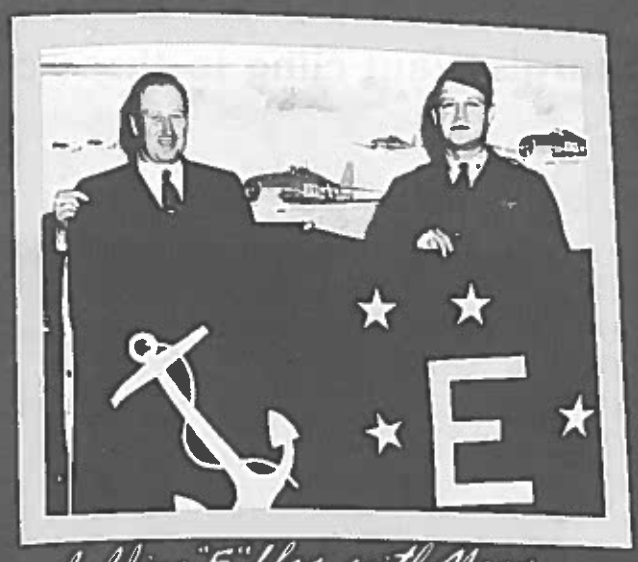
"I think that at a certain time in his career this is the same advice you would have given Henry Ford," Grumman replied. "He's done very well, so I think I'll keep things just as they are."

During World War II, his prosperous "Grumman Iron Works" built 98 percent of the Navy's torpedo bombers and 65 percent of its fighters. After the war, Grumman reduced his 26,000 workers by laying off everyone and rehiring only the 5,000 he needed. He assigned George Titterton (now a retired vice president) to do the careful screening, and instructed: "If anybody who has been here 10 years isn't being called back, I want to make the final decision." Consequently, only three of the numerous 10-year veterans were not recalled.

During the postwar rage in the aviation industry to mass produce civilian planes, Grumman's firm built three experimental models. "One was an amphibian," recalls Henry Schiebel, a retired company pilot. "It was a horrible-flying single-engine plane that should have had its control stick on the ceiling, because when you stalled the plane rolled upside down. Mr. Grumman ordered: 'Chop it up



-mock-up of XFF-1, Grumman's first fighter



-holding "E" flag with Navy

-with friend and partner Jake Swirbul

-in Bethpage office he shared with Jake Swirbul

-Time magazine, September 11, 1944

"-F6F-3 Hellcat, Grumman's most famous plane

and make sure the rudder pedals are removed.' His name was printed on the pedals. He was very proud of his name."

Grumman often said: "Let the other guy have the glory; we'll take the gravy," reports George Skurla. The Grumman Aerospace Corporation president explains that his boss was cautious about debuting, with much fanfare, new products that never evolved into solid programs which guaranteed job security. Instead, he preferred the less flashy but more substantial products that could "keep the company going, keep it strong and profitable, and able to invest in its future."

With these notions in mind, Grumman sometimes asked: "What would you rather do? Would you rather build a million mousetraps or one locomotive?" Again, Skurla explains the thought was that if the firm built and sold, say, one Gulfstream or one Mallard, that would equal scores of Seabee airplanes that became so popular after the war. Grumman shunned the mass market and its promise of an airplane in everyone's backyard. "Let's stick with our Navy business," he urged. "Let's continue building a good solid product."

While that corporate agenda unfolded, Grumman contracted a cold that turned into pneumonia. The illness was extraordinary for him, since he had always been in robust good health and reportedly never required even so much as an aspirin. Grumman's doctor, unaware that his patient was violently allergic to penicillin, gave him a shot of the new wonder drug. The reaction was catastrophic. "In the very beginning," recalls Rettaliata, "he had to be kept in a black room in the hospital for about eight weeks. He broke out in ulcers all over his body."

Eventually, his failing health forced Grumman to relinquish his presidency in 1946, but he remained as board chairman to lead his company into the jet age and then the space age. When he retired in 1966 as chairman, his company was in the midst of building the Lunar Module that would land a man on the Moon.

"I don't understand all the details of spacecraft and space flight," he once confided to Skurla. "It's kind of beyond my generation. But, I know the Grumman people will design the best that can be. We have a family here at Grumman and I would like to think that we will maintain the Grumman family spirit and relationship between management people and people on the line beyond my years." ■

A Bridge To The Past

Amish workers in Sturgis plant cling to three-century-old life style

Photos by Les Lesego

By Alex Poinsett

A 20-minute film, describing ways to increase productivity, unreels before employees at Grumman's truck body plant in Sturgis, Michigan. Almost all eyes are focused on the large screen — all, that is, except those of a handful of Amish workers. Like their fellow employees, they are *listening* intently enough, but facing away from the screen to avoid *seeing* what is going on and thus — according to their religious beliefs — to avoid any possible taint. No one is particularly surprised by their behavior, for these are the same camera-shy Amish who — unlike their fellow workers — refuse to wear photographs on their identification badges. When hard hats were once required for all plant workers, Amishmen insisted on wearing broad-brimmed hats. And, instead of driving cars, they pay up to 35 cents a mile to be chauffeured back and forth to work.

These preferences aside, Amishmen are among the most productive workers at Sturgis, reports plant manager Larry Parsons. "They're not seen as oddities here at all," he continues. "In fact, it would be odd if they weren't here."

Parsons notes that the Amishmen get along exceptionally well with the non-Amish workers in the noisy, stress-filled atmosphere at Sturgis because they never complain, pose no threats and avoid confrontations. Even so, their 15-year employment with Grumman seems contrary to the close-knit, extended farm-family life style that this Mennonite Church splinter group inherited from their Swiss/German forefathers of three centuries ago. Viewing themselves as a "chosen people" or a "peculiar people," Amishmen are normally so self-sufficient that they are exempt from paying social security tax. Their religion commands them to take care of their own rather than to accept government aid of any kind.

Such Amish independence is personified in sturdy, 47-year-old Rev. Lonnie Yoder, a riveter and troubleshooter in the Specials Department where truck body interiors are tailored to customer specifications. His is almost the last stop on an assembly line where busy workers merge metal, glass, wire, rubber and know-how to complete the 17 aluminum truck bodies produced daily. Rev. Yoder determines from his blueprint readings whether certain parts will fit in what essentially is a large, metallic jigsaw puzzle. His work calls for patience, keenness and attention to intricate detail — qualities developed by Amishmen from their long carpentry and furniture-building tradition.

The minister has been singled out by one of his 400 fellow workers. "You got to get to know the Amish before they'll warm up to you," the worker explains. "You got to prove that you're not out to humiliate them in any way. You know you've proved yourself when one of them comes up and asks you a question. That's what Rev. Yoder did after three months of waiting."

Completing a recent work day, he strides from the Sturgis plant, rustic in his straw hat and heavy brogans, quizzical behind horn-rimmed glasses, his baggy blue denims held up by suspenders rather than the belt his "Old Order Amish Church" strictly forbids. He comes vigorously defending his faith, pausing only to apologize for not being as fluent in English as he is in the German spoken throughout the Amish community. "The Bible is our guide," he says piously. "It tells us: *'Be ye not conformed to this world, but be ye transformed by the renewing of your mind that ye may prove what is that good and acceptable and perfect will of God.'*"

The minister interprets this to mean that the estimated 86,000 Amishmen living in 20 states must strive to be as Christlike as the beards they wear, must steadfastly avoid social, political and religious integration with modern America, must separate from the desires, intentions and goals of worldly persons (an Amish euphemism for city dwellers). For Amishmen see cities as the centers of leisure, non-productive spending and wickedness. The Christian life, they contend, is best maintained away from the cities. For God, they believe, is more manifest in closeness to nature — the soil, the weather, plants and animals — than He is in man-made cities.

Sturgis, however, a community of only 15,000 located halfway between Detroit and Chicago, is as rural as the tall corn growing right up to the Grumman plant walls. Rev. Yoder's thoughts are on other matters as the car he is riding in heads toward his home. Finally, he cites a second key Biblical passage: *"Be ye not unequally yoked together with unbelievers, for what fellowship hath righteousness with unrighteousness and what communion hath light with darkness?"* Thus, according to the minister, Amishmen are forbidden to marry non-Amish persons or to become their business partners.

Amishmen are normally so self-sufficient that they are exempt from paying social security tax.

Moreover, Rev. Yoder cannot attend city gatherings, amusement places, movie houses, dance halls, taverns or even county fairs. He may sightsee in the city, visit a zoo, railroad or bus station, and shop in stores, but the minister cannot attend city churches. Nor can he vote, as a rule, in either county, state or national elections. He may, however, vote on school and county bond issues which concern his Sturgis community. Most important, he cannot swear oaths or take up arms either in defense of himself or his country.

Rev. Yoder's work with "worldly persons" at Grumman, however, is

Sturgis Plant scenes (L. to R.) show 1) A truck body about to be joined to a chassis, 2) An Amish worker, Rev. Lonnie Yoder, checking a bumper assembly, 3) Workers spray painting a truck interior, and 4) quitting time. The harvest scene (below) is typical of the largely rural, Amish life style.

a tolerated deviation from the austere Amish ethic, a compromise brought on by the scarcity and high cost of farmland. "I cannot earn enough from my farm to support my family," he explains, as the car wheels past a shed sheltering his horse-drawn carriage then pulls up to a white, two-story farmhouse built by the cleric and his brother. Its back stairs lead into the kitchen where the pungent odor of cooking stove fuel oil hangs in the air. A bespectacled Mrs. Yoder, white-bonneted and aproned, is gracious as she introduces three of her barefooted children.

Walls throughout the house are noticeably bare except for two large calendars in the living room. Sparse, dull-colored furnishings suggest the chaste frugality and restrained modesty of the Yoders. Conspicuously absent are television sets, radios, telephones, phonographs; in fact anything requiring electricity — a no-no in Amish homes. Hence, Mrs. Yoder sews the zipperless trousers and pocketless shirts, the starkly plain dresses and drab capes, indeed most of her family's severely conservative clothing on a foot-powered sewing machine.

Rev. Yoder settles himself in an easy chair, its white padding slowly oozing through large rips in the synthetic leather upholstery. His wife has a hearty dinner waiting for him on the kitchen stove, but instead of eating right now the minister seems eager to continue expounding on his Amish faith. During his discourse, Mrs. Yoder is content to remain silent as if obeying the Apostle Paul's admonition: *"Let the woman learn in silence with all subjection."*

Rev. Yoder explains that he likes his work with Grumman, but he prefers self-employment on his 80-acre farm because of his Amish beliefs. "I can see a big difference in my two teenage boys and my 22-year-old married son," he adds, referring to differences in parenting styles brought on by his forced absence from home. "My wife does

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Repairing a barn, Amish farmers exhibit the sort of cooperative life style which their community has practiced. Their style is similar to the early Christians depicted in the Bible.

the best she can, but if I was home during the day I could teach the two youngest boys what they need to know about farming."

The cleric cites Biblical sanctions for hard work, thrift and mutual aid then turns to Amish notions that as farmers they are better off with only a grade-school education. So his children must quit their one-room schoolhouse after the eighth grade, a concession Amishmen won long ago in court battles against compulsory education laws. He believes tutoring only in the three "R's" suffices since, after all, the Bible declares, *"the wisdom of the world is foolishness with God."* That is, the world is educated and "worldly education" leads to sinfulness and moral corruption, according to the Amish. They see the scientists who invented the theory of evolution and who made bombs to destroy the world as the highest of all educated people. But such ends are contrary to Biblical teachings, Amishmen contend.

How to plow a straight furrow is more important to Rev. Yoder's sons than knowing, for example, the spatial relationships of geometry. They acquire such practical knowledge informally by working side by side, from dawn to sundown, six days a week with family and community members and not by attending school. Besides, children need not know more than their parents and grandparents who, after all, prospered in life, some Amishmen contend. They cite an old dictum: "je gelehrter, desto verkehrter" — "the more learned, the more confused."

Rev. Yoder seeks clarity in the all-day worship services held every other Sunday in the homes of the various members of his "church district" (about 25 families). Selected through the drawing of lots from the church's married men, as the Bible prescribes, its ministers, bishops and deacons require no formal training either before or after ordination. Their charismatic leadership is heavily dependent upon spiritual guidance and inspiration and is not challenged.

Neither Rev. Yoder nor his fellow clerics evangelize or proselytize outsiders or seek to redeem the outside society by attracting members. Their major concern is to keep their own baptized members from slipping into the outer world. Yet, an estimated 26 percent of all Amishmen leave the faith, including several in Sturgis who have rejected the rigid, demanding Amish discipline. Many return to the far more liberal Mennonite Church. Other Amishmen who covet modern living comforts face the threat of excommunication and shunning by family and friends.

Rev. Yoder has been talking long and earnestly for almost 90 minutes, but he shows no signs of fatigue even though he arose at 4:30 a.m. on this particular day, led the family worship and reported for work at 7:00 a.m. in the Sturgis plant. Clearly, he is preoccupied more with things spiritual than secular. For like his fellow Amishmen, he sees himself a "stranger," a "pilgrim" in the present world with no assurance that he has been "saved." His faith promises him that his knowledge of salvation will become complete only after he — shrouded in white — hears the clarion call of the last judgement: *"Come, ye blessed of my Father, inherit the kingdom prepared for you from the foundation of the world."* ■

Horse and buggy is a typical transportation mode for the Amish who disdain auto ownership. Many of them, like the two children pictured, enjoy fishing.

Is The Big Carrier Obsolete?

Nimitz-class behemoths give U.S. air power at sea, say proponents

Is Grumman's primary business, building electronics systems aircraft to operate from big carrier decks, based on an obsolete military concept? Senator Gary Hart of Colorado thinks the day of the big aircraft carrier is past, as do Admirals Stansfield Turner, Elmo Zumwalt and others whose opinions carry weight. Secretary of the Navy John Lehman, Chief of Naval Operations Admiral James Watkins and others disagree. The debate has produced hours of testimony and acres of newsprint. Based on our experience with naval aircraft and our understanding of advanced technologies in development now, here's how Grumman assesses the issue:

The essence of the argument against the carrier is that big ships are big, expensive targets — "a seaborne Maginot Line" — that are vulnerable to modern weapons, and so the Navy should disperse its forces into more and smaller ships. "We're heading for a time when any ship can be sunk by a single hit," contends Admiral Zumwalt, "and so it's clear that the drive should be toward many more ships at the least possible cost." Obviously carriers are big and expensive, but does that mean they are easier to detect than small ships, vulnerable to attack, and that more small ships would be less expensive? First, consider detection.

A Grumman E-2C can detect a small coastal patrol boat a hundred miles away, and can automatically track more than two hundred ships, planes and cruise missiles simultaneously. Certainly carriers cannot hide from modern radars, but neither can destroyers and frigates. There is no concealment on the surface of the ocean, and so a ship must be able to defend herself.

The sinking of the British frigate Sheffield in the Falklands prompted a *Newsweek* cover headline, "Are the Big Ships Doomed?" That turns the argument on its head. The Sheffield was a small ship. She was sunk by a single missile fired from an airplane some 40 miles away because she had no aircraft to protect her. What the incident demonstrated is that small, lightly protected ships are sitting ducks today.

The nuclear carrier is big enough to defend herself. She can launch the Grumman F-14, which can intercept any aircraft — and even cruise missiles — far away from the carrier, and the F-14's own missile is accurate at a distance up to 100 miles. No other fighter in the world carries a weapon even approaching that range. The carrier also has anti-submarine aircraft and is always accompanied by ships with submarine protection equipment.

To penetrate these defenses an attacker would have to send swarms of planes, missiles and submarines and be willing to accept heavy losses. Even then, the big carrier is built to take so much punishment that she would be hard to disable. During the Viet Nam War, nine 500-pound bombs were accidentally exploded on the flight deck of the Enterprise. This was equivalent to direct hits by six Soviet SSN-3 cruise missiles. The Enterprise did not just survive, but within hours she resumed flight operations.

Of course, the ultimate threat is the nuclear ICBM. A carrier within its blast radius would be destroyed, as would an air base or anything else. The difference is that the carrier is always a moving target, and with nuclear engines she can really move. Even if the carrier's position were precisely targeted by an ICBM, during the missile's flight time the carrier would move 12 miles or more from the aiming point. This doesn't make the carrier invulnerable, but it does make it a difficult target.

What about cost? The proponents of the small-ship Navy advocate building 44,000-ton carriers instead of 93,000-ton Nimitz-class carriers. Over the 30-year life of a ship, the smaller carrier would cost $5.6 billion, or 73 percent of the $7.65 billion Nimitz-class carrier. But small carriers would require the same escort ships to protect them. Adding those costs brings the small carrier battle group to $18 billion compared with the $20 billion for the big carrier group over 30 years.

For about 10 percent more cost, 95 planes operate off the big carrier, compared with 38 off the smaller one. The big carrier has four catapults, compared with two, and so it can put planes in the air faster. It carries one-and-a-half times as much aircraft fuel and other supplies per plane. Its nuclear "fuel" can drive the big carrier at speeds up to 30 knots and faster for 13 years. The smaller, oil-burning carrier must be refueled every few days. To deliver 40 percent of the aircraft the small carrier requires 60 percent of the manpower of the big carrier.

The small carrier costs a little less but it's a lot more vulnerable and it can do a lot less.

New technologies are providing more punch and more protection for small ships. Someday small ships will have aircraft that can take off and land vertically from platforms the size of helipads to look electronically over the horizon and to guide long-range missiles launched from the ships. But no technology in sight can replace the travelling air base that can operate independently for months in remote parts of the earth, through all kinds of weather, ready to defend itself and to strike deep into enemy territory. It is a potent peacekeeper just by its formidable presence. Since World War II the carrier has been used in more than 100 crises, most recently in the Persian Gulf.

There is no concealment on the surface of the ocean, and so a ship must be able to defend herself.

Much more than the Soviet Union, the United States depends on imports from overseas. This means that we must be able to control vital sea lanes and protect our interests around the world. The large-deck carrier is essential for that job, and it will continue to be essential into the next century. Two more big carriers are now being planned, because as former Chief of Naval Operations Admiral Thomas Hayward says: "It is the aircraft carrier that gives us air superiority at sea — whenever and wherever we deem it vital to our interests. It is the aircraft carrier that is the primary difference between our offensive capability and that of the Soviet Union. It is the aircraft carrier that resolves the real issue, the issue of air power at sea."

Grumman has always believed that the enormous investment in these platforms dictates that precious deck space aboard the carrier should be used for the most capable aircraft. But in recent years, some military planners have favored small, less capable aircraft, in an attempt to buy more for less. The conflicts in the Falkland Islands and Lebanon have helped to demonstrate that sophisticated electronics systems make the military difference. Senate Armed Services Committee Chairman John Tower put it succinctly: "The future is in sophistication, and we can't expect to get it on the cheap." ■

Protected by F-14 Tomcats, nuclear-powered USS Nimitz is an example of the sort of carrier which advocates say the U.S. needs to protect adequately the nation's global interests.

Woman Manager Advises Grummanites:

"Don't be caught playing checkers when everyone else is playing chess."

By Katherine Pedell Kantor

It is, like most June graduations, a time for rejoicing. The 21 female graduates of the job rotation program at Grumman approach the dais smiling, their arms outstretched for the slip of paper that signifies success. Joelyn Iannone, Grumman's manager of career education and training, has just given a welcoming address on women's roles in the corporate world and she, too, is beaming. The busy department she heads has sent Grumman employees to study at Harvard and Massachusetts Institute of Technology on company time and at company expense and has funded courses as diverse as business law and culinary arts. Joelyn's 17 staffers handle all of Grumman's management training and career education programs. "You can have all the accolades," she tells them, "just as long as you take all the responsibility."

Today, by 4 p.m., the paper-burdened administrator might be wilted but she looks as cool as the cameo figure pinned at the neck of her ruffled blouse. Everything else about Joelyn is precise, tailored. She is meticulously groomed. Even her desk is remarkably uncluttered. A visitor getting a first glimpse from outside her office is unaware that she is a very tiny woman. She also gives the impression that she might have been sent to Grumman by Central Casting to play the role of the no-nonsense female executive.

But when Joelyn speaks, she dispels any notion that she is playing a role. Her two master's degrees from St. John's University (an M.A. in American history and an M.S. in counseling) help make her a special person. After 15 years of high school teaching, she arrived at Grumman on the crest of what she calls "the big wave." This was 1974, just a year after the presidential order that recognized a person's sex was included within the meaning of the 1964 Civil Rights Bill. This was a time, too, when industry realized that affirmative action applied to women and began looking under every stone to find females with degrees in business administration or remotely related subjects. "The premise was that management would put us on a fast track, train us and bring us up to speed so that we could get promoted from within," Joelyn recalls about her rise at Grumman.

Before she was hired, she was querried about how she would react in a predominately-male, technical industry. "All I could say was that when I started teaching in 1959, the older teachers thought they were better teachers and harder workers than any of us

Photos by Rich Breunig

young people coming in," Joelyn recalls. "At first, I argued with them but I found I only created a barrier." Joelyn threw herself into her job. She worked long hours, staying well beyond the working day. She was always available for consultations with students. Her persistence paid off. By the time she left teaching, she was assistant principal in charge of pupil personnel services at New York's Bishop Reilly High School.

Similarly, Joelyn used the same technique at Grumman. "It meant working and demonstrating and hoping that I was going to change the attitude that prevailed about women," she says.

One of Joelyn's first jobs at Grumman was to set management training priorities. Few of the curriculum offerings met management's needs and thus had to be revised or redesigned. For example, it did not make sense to Joelyn that Grumman would not pay for courses in business law, although it is job related. From there, it took only a small stretch of her imagination to see how an employee in food services might be sent to earn a degree in culinary arts or how an engineer might opt for an M.B.A. or courses in business law, or how a person in the shop might go for a degree in engineering. But it was not until a 1980 attitude and behavior study by Grumman Aerospace of 1,310 of its employees that management began addressing itself to improving management skills, bettering performance appraisals, and broadening opportunities for minorities and women.

"We began making it clear that supervisors were accountable for their actions," Joelyn recalls. "As a corporation, we do not have the right to modify a person's behavior. The corporation has the right to say, 'I can't control your thinking, but on corporate time, don't demonstrate anything that would be offensive to another person because you will be held accountable.'" Eventually, the manager believes it may be possible to change a person's attitude by changing his behavior in such a way that he becomes comfortable with it. At first, she recalls, it was difficult to convince supervisors to recruit women for other than secretarial jobs. Today, women are working in non-traditional jobs and many are professionals.

Joelyn, whose name combines her parents' first names, John and Helen, grew up in Brooklyn, the second of two children. She attended St. Joseph's, a woman's college where the overriding aim of the graduating class was marriage. Now 45, Joelyn says she is "secure in my single life style." But she pauses momentarily then quips, "Who knows what I'll say at 65."

Meanwhile, her dedication to her work paid off last year when she was picked for 13 weeks of advanced management training. Today, with her insights into upward mobility at Grumman, she conducts four-hour lectures on the Grumman "subculture" and advises employees to know how the boss operates. "Learn the confines of his world," she suggests. "Learn the history of your company, how it started and who the power brokers are. A lot of problems people are experiencing aren't women's problems but people problems."

Joelyn believes every employee should have a mentor to guide his or her career as has been the case with artists, writers and musicians throughout history. She defines a mentor as a teacher, a proven survivor who knows how to operate within the system, someone who can be trusted implicitly. "A mentor will keep you from falling flat on your face," she says.

Networking is yet another tool women must learn to use, Joelyn contends. "Women have to get rid of the attitude, 'I made it, now you go make it on your own,'" she says. "Women have an obligation to each other. They need to learn to help both those within the corporate structure and those on the outside who would like to be on the inside. Men have been networking for years and it is an important factor in their lives. Networking works."

For the past 20 years, Joelyn has been living in Great Neck, N.Y., a Nassau County community that prides itself on its 25-minute train ride to Manhattan. "I love being close to Lincoln Center," she says. "I'm anticipating seeing the Danish and Canadian ballet companies this summer and I look forward to seeing the play, 'Amadeus,' next week. I am committed to my job, so I need another dimension to my life," she explains.

At home, Joelyn spends much of her time in a special, bookcase-lined room built for her by her father. "It's all oak, walls, ceiling, floor," she says. "The room is proportioned to me. It's the dimension of..." she hesitates a moment and smiles, "It's Joelyn-sized. My father told me, 'I know you'll study here.' He was right. The room is my getaway. I close the door and I settle down with a good book. When I close the door, the outside world doesn't exist. My room helped me get where I am today."

Joelyn intends to remain at Grumman indefinitely. "The company's diversity opens up all sorts of possibilities," she says. "I also take my own advice. I tell my staff that if they want to move up in the company, they have to be in touch with everything that's happening. They have to know the score. It's important that they not be caught playing checkers when everyone else is playing chess." ■

Preparing undergraduate students for the job market is just one of the many facets of Joelyn Iannone's busy career. On the campus of C.W. Post College in Greenvale, N.Y. (far left), Joelyn explains career opportunities to a student. At Plant 39 (top), Joelyn addresses Grumman's quality circle leaders and facilitators at a visitor's training program sponsored by the Career Education and Training Department. Later, she sits on the steps of the campus library (bottom) going over notes for her career education presentation.

Hellcat Revisited

Famed WWII fighter still evokes awe 40 years later

During World War II, Grumman employees worked 14 to 16 hour days forging Hellcats. As a result the Navy had a constant supply of ready fighters.

Navy ace Commander David McCampbell peers from the cockpit of the last Hellcat he flew (far left) while pilots rush to prepare for the ensuing battle (far right). The Hellcat was primarily responsible for protecting the nation's fast carrier fleet in the Pacific, but was also used by Allied forces in Europe.

By Jerry Mikorenda

Waiting was always the hardest part. Hour after hour in the air, following the Hellcat ahead of you with only the long white streamers of ocean wake marking the movement of the task force below. And then all of a sudden when we thought air patrol was finished for the day, radar command came busting over the box with orders to "Gate" and four Hellcats dropped their fuel tanks and vectored toward a lone Japanese Zero slipping through a billowing castle of clouds near Saipan.

The new air group commander took on the "Zeke." Dipping a wide blue wing to attack, he showed a glint of white underbelly like a falcon dropping on its prey. As he approached the intruder, we knew it was just a matter of time. We had confidence in that plane. Most of the guys in our squadron never flew before signing up, but our Hellcats were faster, easier to handle and sturdier than anything the enemy could throw at us. Despite Zeke's evasiveness, within minutes the Hellcat outran him, and during a high-speed turn, sent the enemy hurtling down in four blue ribbons of twisting smoke.

Altogether, Grumman produced 12,275 of the aircraft, a few of which are still flying today.

At Marcus Island, the Marianas, Okinawa and Tokyo, the result was always the same, whether stated by an anonymous pilot recalling a battle scene or reported on the front page of the New York World-Telegram. In 19 out of every 20 tangles with enemy aircraft, Grumman Hellcats returned safely to their home base. A short-stubby fighter, the F6F Hellcat first appeared over the potato fields of Long Island 40 years ago.

World War II catapulted Grumman into the limelight. Although the company's F4F Wildcat held its own at the Battles of Coral Sea and Midway, it had been apparent that a new fighter was needed to combat the Mitsubishi Zero. To battle "Zeke," the Navy needed a fighter with increased range, maneuverability and a higher rate of climb. By June 1942 Grumman had design Number 50, the XF6F-1, in the air. "We called it a 'Captain's plane,' " recalls chief test pilot Bob Hall, who flew that original Hellcat, "because it was so easy to handle even an officer could fly it."

While the Hellcat earned Grumman a reputation among fighter pilots, the company's resourcefulness and "plain folks" management style delighted reporters looking for good news. When materials were scarce and Plant 3 was needed to support Hellcat production, Grumman found the necessary steel from a dismantled New York City railway. Pentagon experts were amazed that Grumman was able to turn out almost one million dollars worth of aircraft a day with an inexperienced work force, including many women who had never seen the inside of a factory before.

One wartime employee who bucked rivets recalls: "The first summer I was here, if a woman walked through the shop all the guys would bang their bucking bars against a plane. But by next summer, whenever a guy came into our area, all you heard were women banging their bucking bars on the side of a Hellcat."

With more than 20,000 wartime employees, Grumman still managed to keep its small-shop atmosphere. Visitors were fascinated by the rapport between company executives and the work force. When Vice President and General Manager Jake Swirbul had news for workers, he came to the shops in shirt-sleeves to tell them. The friendly, informal style of company founders Leroy Grumman, Jake Swirbul and Bill Schwendler led Time magazine to dub them "the embattled farmers" in a 1944 cover story. Employee activities such as softball and basketball, frowned upon by the rest of the industry at the time, were commonplace at Grumman. Boxing matches and dancing entertained employees at lunchtime and company nursery schools helped keep young mothers on the job.

All of this helped keep Grumman's turnover rate at an industry low throughout the war and kept Hellcats rolling off the production line. The first were delivered aboard the Yorktown in January 1943, just 14 months after its inception on Grumman's drafting boards. In May of that year, a Navy pilot flying his first combat mission claimed a lone Zero near Saipan. Although the newly appointed air group commander of VF-15 returned safely to the USS Essex, his Hellcat was so badly damaged it was pushed overboard.

It was the only F6F Dave McCampbell lost to combat damage. During the next 16 months, he amassed 34 victories while serving in the Pacific and led his "Hellcat squadron" to a record 315 air successes. His nine triumphs in the "shoot-out" over the Marianas stands as the finest day in the history of American air fighters, even though, he says, "I ran out of gas taxiing back on deck." Now retired and living in Lakeworth, Fla., what McCampbell remembers most about the Hellcat is not losing a single pilot during combat. "We all loved it," says the Congressional Medal of Honor recipient. "The big advantage in flying a Hellcat was its availability. More than 96 percent of the time our Hellcats were ready for action. It was rugged and easy to maintain."

Grumman test pilot Dave Seaman, who flew the F6F when it was used as a Navy trainer in 1949, says combining the Hellcat design with the Pratt and Whitney R2800 engine made it an outstanding plane. "The Hellcat was designed by some very practical people with a good eye on production," adds Seaman. "It could be turned out, and flown, by relatively inexperienced people."

Grumman set production records — and then it broke them. In March 1945, the company outpaced the rest of the industry by building 605 Hellcats. That month Grumman delivered 664 combat aircraft to the Navy — more planes than any single plant in the world has ever produced. "But the thing that was really amazing," says George Titterton, chief engineer in charge of production in 1945, "is that we exceeded our quota for the month before, and after, March." Up until 1940, Grumman was manufacturing about 40 fighter planes a year.

Shortly after the war ended, jet technology outstripped the flat-nosed Hellcat. The F6F served its last days as a trainer and target drone for young pilots honing their carrier skills. It was finally taken out of active service in 1959. Altogether, Grumman produced 12,275 of the aircraft, a few of which are still flying today.

History has not forgotten the Hellcat. Many of the planes are memorialized in air museums across the country. This month, McCampbell, the Navy's top ace during WWII, is being inducted into the Fighter Pilot's Hall of Fame, located on the carrier Yorktown in Charleston, S.C. Only eight men have received this honor. Forty years after he last flew a Hellcat to protect our sea lanes, he still feels a debt of gratitude toward Grumman. "Luckily, Grumman was in the right place for the right job," he adds. "They built a good steady product that was the plane of its day." ■

The Flat That Doesn't Tire

Promising Grumman tire research has the industry all pumped up

Photos by Jim Wagner

The idea of driving a car with no air in the tires may leave some people flat, but that was the concept Ed Markow of Grumman's Advanced Aircraft Systems first presented to the U.S. Army.

Since World War II, the Army has realized that its most sophisticated and expensive ground vehicles could be put out of action by just one small hole in a tire. To overcome this, Army engineers set requirements for a tire that could run flat while carrying a combat load and crew safely at high speeds.

According to Markow, a supple band inserted into the Grumman tire tread is the key element that helps it maintain shape when flat. "The band acts like steel belting in a radial tire when inflated," he says, "but when deflated, it settles about 2 inches and behaves as a stabilized elastic arch."

"One of the highest accolades a father can receive is when his son says, 'Yes dad, you really did something unique.'"

Unlocking a paint-chipped door, Markow ascends a flight of narrow stairs leading to a tiny storage area above Plant 5 in Bethpage, N.Y. Strewn about the room are various models of Grumman's run-flat tire. Markow picks up a dusty tire with a large hole cut into the sidewall, and reflects on the initial road test in 1978. "My son was actually the first one to drive on it," says Markow. "The day before the test run I wanted to see how far the flat tire sank so my son and I put it on our car, let the air out, and he drove slowly around the block while I watched its behavior."

"One of the highest accolades a father can receive is when his son says, 'Gee dad, you really did something unique,' " adds Markow. What he did not realize was the tire could run successfully at 40 miles per hour; a fact he discovered the next day at the test track--a deserted parking lot on Long Island's Jones Beach. "It was a bitter cold day in early spring," recalls Markow, "when this state trooper spotted us letting air out of the tire. He very suspiciously came over to ask what we were doing and ended up watching in amazement as we drove back and forth across the parking lot on a flat tire. With that simple test, I felt we had something that we should start getting a patent application on."

After four years of hard analysis, Markow is still perfecting the potential demonstrated during that first test. "It's a challenging concept," he says. "People look at tires and think they're just rubber and not very complicated to build, but tire mechanics is a complex field." To support his statement, Markow points across the room at other experimental tires that didn't fare so well. One with a ruptured interior looks like a shriveled donut. Grumman ended up testing several materials before settling on a low-cost band that displayed the right amount of resiliency for road use. In all, the company had more than 250 test tires built.

Publicity seems to have followed Markow throughout his career. In 1967, he appeared on the Walter Cronkite show, "21st Century" to explain how a mobile lunar laboratory could be used to explore sites on the moon. Indirectly, the research done on the metal elastic wheels used on that project led to the creation of Grumman's run-flat tire years later.

Auto industry executives believe tires produced after 1985 will be able to run flat for 50 miles at top highway speeds.

The idea of developing a run-flat tire for earth use crossed Markow's mind while cleaning out some files in 1977. "I was throwing out quite a bit of old material when I came across a dog-eared report on lunar wheels. While reviewing this old data, it became obvious that it could be adapted for radial tires," says Markow, "and I was blessed with enough ego to think it might work one day."

The concept, patented in 1978, won Markow a Grumman award as inventor of the year. Altogether, he has seven patents under his name, but he refuses to take all the credit for their development. "It's foolish to think of a patent as one man's idea," he says. "It's an evolution; when an idea comes up it works because of a team effort."

Colonel Nate Carr, the Army program manager, saw many designs for run-flat tires, but felt Grumman had the best. "This tire didn't require any special rims or devices," he recalls from his Detroit office. "It looked like it might work, and it did." Carr is pleased with the progress Grumman's design has demonstrated, and is looking forward to signing another contract with the company. If accepted for production, the Grumman tire has potential applications for at least 20,000 Army vehicles, including the new 5¼- and 10-ton trucks.

Al Kopsco, Grumman's project engineer for the Army run-flat tire program, states that new high-strength fiber technology has also made these bands a candidate for commercial tire construction. "This tire promises to greatly improve the safety, cost and convenience of operating a car," says Kopsco, who was with Markow during the tire's first test run at Jones Beach.

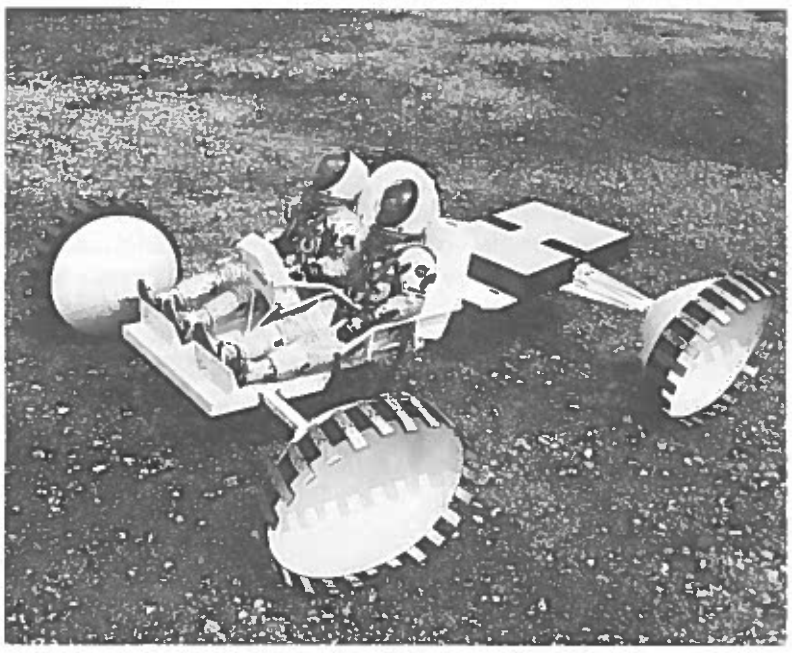
Auto industry executives believe tires produced after 1985 will be able to run flat for 50 miles at top highway speeds. Since more than 150 million tires are produced annually, Grumman hopes its run-flat tire concept will be accepted by the automotive industry, thus enabling the company to receive royalties for licensing the technology. It is also possible that Grumman could produce certain elements of the tire.

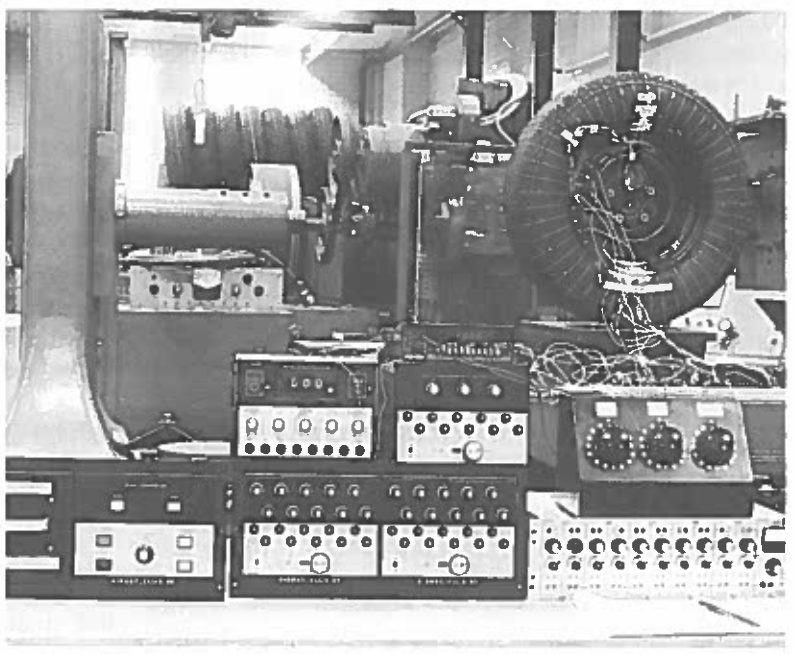
Car manufacturers expect run-flat tires to increase gas mileage, eliminate the need for bulky spares and end the dangerous consequences of changing roadside flats. Spares would be kept at gas stations under the assumption that drivers have enough run-flat range to reach any service area.

Markow believes Grumman's run-flat tire will provide other benefits as well. "We found it wears better than standard tires because there's less motion in the tread rubber as it meets the road," he says. The banded tire also resists tread puncture--an important factor for vehicles rolling through shrapnel-scarred battlefields or poor road conditions.

"Every year drivers are involved in accidents caused by tire failures. If we could just eliminate a small percentage of those, then Grumman has made a good contribution to society,"adds Markow, philosophically. "We don't want to reinvent the wheel, just create another version of it." ■

Al Kopsco and Ed Markow demonstrate the resiliancy of the Grumman band in what is now known as "Ed's tire room." Markow's invention grew out of research done for the lunar rover program. Because of the years of laboratory testing, Grumman's run-flat tire can smash eight-inch nails and can be driven with a hole in its sidewall.





The Best And The Brightest

Philadelphia gathering stars Grumman fire trucks

Fire chiefs and fire buffs inspect dazzling new fire trucks, poke their heads into interior compartments, ring bells, check out water pumps and hoses and climb into the Aerialcat, Grumman's spectacular new firefighter with a basket platform that extends 95 feet into the air. They are in Philadelphia for the 109th annual conference of the International Association of Fire Chiefs. Some 7,000 people connected with firefighting have come from Korea, Khartoum, Kansas City and elsewhere to inspect the brightest and the best in firefighting equipment.

Grumman Emergency Products, Inc. of Roanoke, Va., crowds the Civic Center floor. Laid out here and there are parts of a Grumman modular fire truck demonstrating how damaged parts can be easily replaced. To firefighters, who cannot afford to have their equipment in a shop for lengthy repairs, this feature is critical.

The spectacular, $400,000 Aerialcat attracts much attention. Its ladder is topped with a 15-square foot basket that swivels and is connected with a new Waterous pump that shoots up to 1,250 gallons of water a minute.

Also displayed are Grumman's Tigercat, Wildcat and Minicat fire pumpers and a portable pumper, priced just under $6,000, which fits perfectly into the back of a pickup truck.

Len Cuccaro, vice president of customer services for Grumman Emergency Products, Inc., points out that a trade show is the place where manufacturers learn about the changing needs of their customers and firemen attend work sessions to exchange ideas. Since sales is the bottom line, nearly $1 million worth of fire trucks are bought by fire officials from Brighton, N.Y., and Pleasant Ridge Park, Ky.

"Basically, the sale of a fire truck is not the end but the beginning of a relationship." Cuccaro adds: "We'll take a 15-year old truck, put in a new engine, a new tank, rebuild the pump, paint the body and it'll run for another 15 years." The repair cost is about $60,000, or half that of a new truck.

Volunteer firemen save the nation's taxpayers untold millions of dollars each year. They also lead dual lives.

Fire Commissioner Bernard Schum of Ridge Culver Fire District, N.Y., thinks a trade show is a place to solve problems. "One of our trucks has been giving us trouble with its pump. The manufacturer just showed me a cutaway of the truck. I now know what needs to be done," he says. "This will cost thousands but the safety of our men will justify that cost."

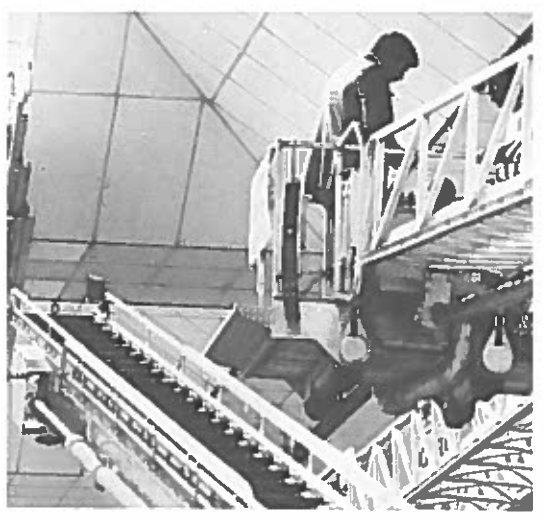
Fire Commissioner Norris J. Platt of Irondequoit, N.Y., a firefighter for 46 years, explains his presence at the Philadelphia show: "Our district has five elected commissioners who set the tax rate, buy the equipment and manage the finances. We have to know everything that is happening in the business." Platt has already "worked" the Aerialcat. Irondequoit has a mutual-aid agreement with its neighbor, Rochester, which owns the truck. "You don't see too many of these extended baskets," Platt says. "For fighting fires, that's the way to go."

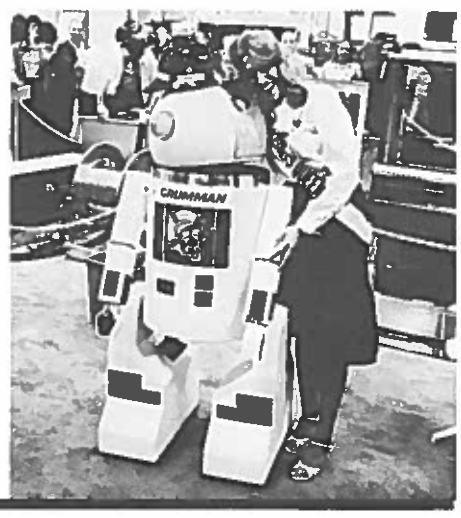
The Philadelphia convention brings together experts in such diverse fields as computers and electronics, finance and management, education and communications. Manufacturers of rolling stock exhibit alongside those who make protective clothing. High-pressure respiratory systems are displayed next to air bags strong enough to lift railroad cars. Meanwhile, classes go on endlessly. Two 70-year old fire chiefs refuse to answer a reporter's questions. "We're late for class," one apologizes. "We have to learn how to operate computers."

Volunteer firemen save the nation's taxpayers untold millions of dollars a year. They also lead dual lives. They will say: "In my other life, I'm a pipe-fitter for Armco Steel...a school custodian...a foreman at Eastman Kodak...a data specialist from Grumman." Some firemen end up riding the trucks they sell. Dan Cimini, Grumman's New Jersey dealer, is one, along with the salespeople and servicemen in his shop. Dan's wife, Carol, does the paperwork for the business and arranges bank financing. She also sells a truck now and then. "Firefighting is a family affair," she reflects. "I'm totally involved in Dan's business. When you marry a fireman, you marry his career."

Carl Amato, Grumman Aerospace EF-111A Integrated Logistics Support manager and the Deer Park, N.Y., fire commissioner, has been coming to firefighting trade shows for 10 years. At home, he puts in up to three nights a week at the firehouse. His wife is involved in the woman's auxiliary and his son is a fireman. For Amato, his second job has made him part of the "greatest fraternity in the world."

Cuccaro believes Grumman's involvement with fire trucks enhances the company's image. "Grumman is concerned with the community," he says. "We're into solar and wind power, trucks and buses." He looks up at his favorite piece of equipment, the Aerialcat, its ladder now folded over the top. "We're talking about maximum rescue capability. I think what I like best is that we're in the business of saving lives." ■





Grumman firefighting equipment on display at the Philadelphia trade show includes aerial ladder (top). The Grumman robot (below) serving as the show's unofficial mascot was befriended by the queen of the Maryland fire chiefs. Fire officials from as far away as Germany and Korea were in attendance at the three-day show.

Photos by Rich Breunig

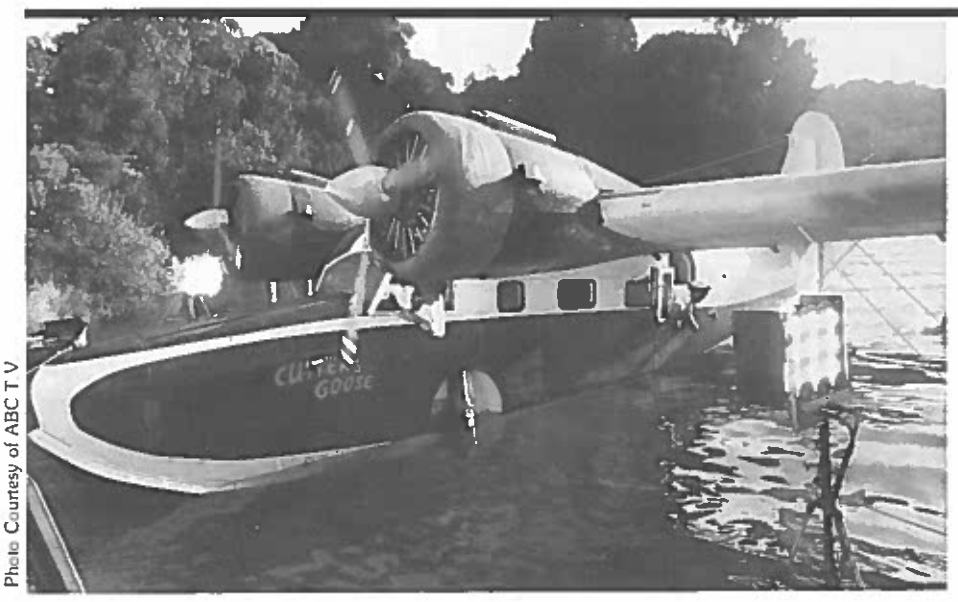


Photo Courtesy of ABC T V

A New TV Star — A 44-year old Grumman Goose is the main prop in a new 13-week ABC-TV series, "The Tales of the Gold Monkey," to be aired Wednesdays at 8 p.m. EST. The show stars Stephen Collins as Jake Cutter, an American expatriate pilot living on the mythical South Sea Marivella Islands in the late 1930s. His work brings him in contact with spies, dishonest merchants and pirates, but his Grumman Goose is always there to help him out of dangerous situations. Grumman produced 319 of the amphibious Goose aircraft between 1937 and 1945 to carry cargo and mail, rescue downed pilots, and as coastal patrol planes during WWII. Only about 100 of the original aircraft are still airworthy.

World's Fair Award — To commemorate "Grumman Recognition Day" at the Knoxville (Tenn.) World's Fair, Grumman Corp. Vice President George Brown (2nd from l.) receives an award presented to the corporation for its participation. The award is presented by Christopher Arnold (l.), exhibit coordinator for the Fair's U.S. Pavilion, and Patti Wilson, director of public affairs and events. Looking on is William T. Schwendler, Jr., manager for Grumman's Atlanta-based Southeastern region.

Letters

I am a retiree, and am writing in reference to the W-2 forms sent out to us at the end of each year for income taxpaying purposes. I receive retirement plus "Level Income Monies." The Level Income money that we receive is not earned income, and in fact is borrowed money that we receive until we are 62 years of age and then we have to pay it back by having our retirement money reduced. This money should not be included in the taxable income on the W-2 form. By doing this, it is an automatic audit of our income tax return if we do not include the "Level Income Money." The W-2 form doesn't jibe with the return. This takes a lot of talking and proof to get off the hook. The IRS said if you can prove it is borrowed money and you have to pay it back -- "Then prove it to me." I do this by showing my stubs and the description of Level Income Money. They accept it but it is a hassle going through this.

W.E. Jakiela Sr.

You indicated that all or a part of your early retirement benefits paid to you represent a loan on the pension otherwise due you at age 62. This is not the case for tax purposes. Under the income tax laws, for the Grumman Pension Trust to enter into a loan agreement it must bear a reasonable rate of interest, be adequately secured, and have a reasonable payback period. As there was never an intention of a loan agreement between yourself and the Pension Trust, none of those requirements were put in place, i.e., you are not being charged interest. The pension payments you receive are not loans and are currently taxable to you. The taxable amounts have been properly reported on the W-2P forms.

People who are newly hired become members of the Grumman Pension Plan after one year. Most of us had to wait five years. Is Grumman ever going to give us credit for the four-year difference?

Chris E. Benjamin

The company has from time to time been able to extend coverage and make other improvements to the Pension Plan. As a practical matter, however, pension plan and other benefits improvements cannot be made retroactive because the costs would be prohibitive.

For example, when dental coverage was added to the Grumman health insurance plan it was obviously impossible to include everyone's dental bills for years past. The result was that some people had paid bills only a few weeks before the coverage was added, and they missed out. This kind of apparent inequity is inevitable whenever benefits are improved.

I enjoyed reading your last issue of Grumman World. I was pleasantly suprised to see the article on speaking of books relative to the book, "The Soul of a New Machine" by Tracy Kidder. The Tracy and Kidder families have been friends of my family for many years. The Kidders live in Oyster Bay. Tracy was raised there and is now married and living in Massachusetts. His mother Reine has just retired from teaching English at the Syosset High School. His father Henry has a law practice in Huntington. The boat mentioned in the book belongs to Tracy's father and is moored every year in Cold Spring Harbor.

Jim Murray

As an old aircraft buff I'd like to know a little history of J2F "Duck" that was recently refurbished at Calverton and what the future plans for it are.

Why aren't we actively promoting the F-14 as an Air Defense Interceptor? It seems to me it would be the most likely choice in light of its Phoenix missile capability. Is it strictly politics or don't we have the production capability to compete with McDonnell Douglas or General Dynamics?

Kenneth E. Newlin

The J2F was designed by Grumman but built in 1944 by Columbian Aircraft in Valley Stream for the U.S. Navy. It operated off the cruiser Franklin and later appeared in the movie "Murphy's War." It now is owned by the Experimental Aircraft Association in Wisconsin and makes occasional air show appearances, most recently at Oshkosh.

A few years ago when the Air Force was selecting an interceptor for continental air defense, we did promote the F-14 actively. It lost out to the F-15. A major consideration was that the Air Force has established logistics, maintenance and other support systems for the F-15.

Good to hear the router room will be taken over by Alfie the robot.

This was ole Jake's "Wood Shed" way back. Some say he had a cat and nine tails in the super's office. NOT SO, it was only the screams of the router.

Way to go!

Jim (Monty) Montgomery

Applause for your interesting article, with pictures, on the USS Intrepid in your Spring 1982 issue of Grumman World.

I first became closely associated with the Grumman Aircraft Company back in the fall of 1944 when as a newly commissioned Navy pilot, I was introduced to a Grumman TBF Avenger. After the Intrepid was repaired from her Okinawa damage, my air group and specifically, my torpedo squadron, VT-14, went aboard her for duty through the end of the war. Prior to joining the Intrepid, I was forced to ditch a TBF in the Pacific and crash land a TBM version on the island of Molokai in Hawaii. Although considered slow, the Avenger was a ruggedly built airplane and served me well.

As you can appreciate, I have many fond memories, and a few not so fond, of time spent aboard CV-11 as we cruised the Pacific on our way to final victory and Tokyo Bay. I was not aware that the Intrepid was to become a museum until I read your article.

Karl B. Matthews

Letters to the Editor should be addressed to **Grumman World,** 1111 Stewart Avenue, A22-111, Bethpage, N.Y., 11714, and should include the writer's full name, address and home telephone. Letters may be edited for purposes of clarity or space.

GrummanWorld

Vol. 1, No. 3, Fall, 1982. Published quarterly for active and retired employees of Grumman Corporation, 1111 Stewart Ave., Bethpage, N.Y. 11714. W. B. Jones, vice president, public affairs.

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GrummanWorld™

Fall 1982

Leroy R. Grumman 1895-1982

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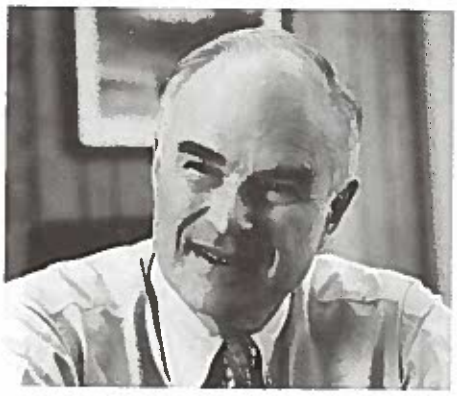
A Letter From The Chairman



Leroy Grumman created more than a company. He and the handful of people who started repairing airplanes in Baldwin, Long Island, established over the years a set of standards, attitudes and values that all of us share today. He and his associates created what could be called a Grumman culture.

Many, perhaps most, successful companies have their own corporate cultures. The differences may seem subtle or invisible to an outsider, but to people who are part of IBM, for example, or GE, those differences are fundamentally important. Social scientists are even beginning to document the ways that a corporate culture is vital to the success of the company.

I doubt that any company in the world has a stronger corporate culture than Grumman's. Our culture has many aspects and nuances, but I believe they all spring from a central dedication. We have always built the best.

Generations of Grumman aircraft have been the best in the world for the jobs they do. Our aluminum canoes last for decades. Pearson yachts are the best production boats on the market. Our solar systems and firefighting equipment are the quality leaders of their industries. Our truck bodies frequently outlast two or three engines and chassis. Making the best is, and always has been, what we do best.

That concentration on quality determines our corporate behavior. When we discovered that we had sold buses that cracked in service, for whatever reason, we knew immediately what we had to do. We reinforced them all, cracked or not.

A dedication to quality leads to a concern for the people who make the products. Quality products can only be made by people who care about workmanship. People who take pride in what they do and who feel that this is *their* company. This in turn determines the kind of people who join us, and the way we deal with each other on the job. Superior quality depends on doing every assignment well, and so every job is important and everybody who does a job well is respected. Visitors usually comment on the general respect for quality performance and our mutual human respect. They're surprised to see the relaxed and easy way Grumman people from all different parts of the company work together. They are often impressed to hear how much care is given when one of us is stricken.

Every successful company has some commitment to quality. The company that makes the shirts I buy does an excellent job of providing acceptable quality at a price I'm willing to pay. What's different about Grumman is that we have chosen to make the very best product in every market we've entered. We have also stayed out of markets and products where quality was less than important.

Of course, in our preoccupation with quality we can't lose sight of the other aspects of our business. We have to control costs so that the superior performance of our products can be afforded and also saves money over the long run. We have to understand our customers so that the characteristics we build into a product are what the customers need and want, not just what we think they should want. But in everything we do we have to remember who we are. We walk in Roy Grumman's footprints, we are the Grumman family, and we build the best.

John C. Bierwirth
Chairman

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